

Module 7: Management Strategies and Potential ARARs

- As discussed in the *Detailed Analysis of Alternatives* section of this course, compliance with ARARs is a threshold criterion in the list of nine criteria that must be considered when selecting a remedy. Therefore, ARARs are an important consideration in the Superfund process.
- This section provides a brief history and definition of ARARs, reviews the role of ARARs in the Superfund process, and discusses some of the most common ARARs.
- Key references for this section are:
 - ▶ National Oil and Hazardous Substances Pollution Contingency Plan (NCP), 55 FR 8666, March 8, 1990 and 40 CFR Part 300, especially 40 CFR 300.430.
 - ▶ *CERCLA Compliance With Other Laws Manual, Part I*, Draft, EPA, OSWER Directive 9234.1-01, August 1988.
 - ▶ *CERCLA Compliance With Other Laws Manual, Part II*, Interim Final, EPA, OSWER Directive 9234.1-02, August 1989.
 - ▶ *Determining When Land Disposal Restrictions (LDRs) are Applicable to CERCLA Response Actions*, Superfund Publication 9347.3-05FS, July 1989.
 - ▶ *Determining When Land Disposal Restrictions (LDRs) are Relevant and Appropriate to CERCLA Response Actions*, Superfund Publication 9347.3-08FS, December 1989.

Module Objectives

- ❑ Define the term “ARARs,” “applicable,” “relevant and appropriate,” “state ARAR,” “to be considered,” and “area of contamination”
- ❑ Compare and contrast compliance with ARARs with protectiveness
- ❑ Identify the single most important CERCLA ARAR
- ❑ Compare and contrast “disposal” with “land disposal”

Module Objectives

- ❑ Identify what constitutes placement or land disposal
- ❑ Explain the relationship between CERCLA and CWA Water Quality Standards, maximum contaminant levels, and maximum contaminant level goals.

History of ARARs

- ❑ **1985 NCP revisions**
 - **Compliance Policy**
 - Addressed "How Clean is Clean"
 - Remedial actions must attain Federal ARARs
- ❑ **SARA codified and expanded ARARs provision in 1986**
 - **More stringent state ARARs added**
 - **One waiver deleted, two added**
 - **MCLGs and WQC to be met when relevant and appropriate**

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- SARA added the requirement that remedial actions must meet state ARARs that are more stringent than Federal ARARs.
- SARA also stated that Maximum Contaminant Level Goals (MCLGs) and Water Quality Criteria (WQC) are ARARs where they are determined to be relevant and appropriate. These standards would not otherwise be ARARs because they are not promulgated and therefore are not legally enforceable.
- There are six ARARs waivers (CERCLA §121(d)(4)):
 - ▶ Interim measures (The selected remedy is only part of a total remedial action, which will meet ARARs when completed.)
 - ▶ Greater risk to health and environment (Compliance with ARARs would result in greater risk to human health and the environment than alternative options.)
 - ▶ Technical impracticability (Compliance with ARARs is technically impracticable.)
 - ▶ Equivalent standard of performance (The selected remedy will attain a standard of performance equivalent to that required under the ARAR, through use of another method.)
 - ▶ Inconsistent application of state requirements (The state has not consistently applied the ARAR in similar circumstances.)
 - ▶ Fund balancing (A remedy that meets ARARs will not provide a balance between the need to protect health and the environment and the availability of amounts from the Fund to respond to other sites.)
- The Fund-balancing waiver is not open to DOE sites.

Definition of ARARs

- ❑ Applicable or relevant and appropriate requirements pertain to any federal environmental law and any state environmental or facility siting law
- ❑ SARA requires compliance with ARARs at the completion of the remedial action for material remaining on site
- ❑ Only substantive requirements must be met on site
- ❑ Substantive and administrative requirements must be met off site
- ❑ Must be “promulgated” and “enforceable”

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- ARARs must be met during the remedial action as well as at its completion.
- Substantive requirements include contaminant levels and design standards.
- Administrative requirements include administrative approvals, inspections, permits, and reporting requirements.
- Only applicable requirements must be met for off-site actions.

"Applicable"

- ❑ Directly and fully address the contaminant or situation
- ❑ Determined site-specifically
- ❑ Based on jurisdictional prerequisites of the law

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- Requirements are *applicable* when the circumstances at a CERCLA site are identical to those specified in the law or regulation.
- For example:
 - If a Superfund site waste that contains lead is found to exhibit the toxicity characteristic and will be land disposed, the treatment standard specified in the land disposal restrictions for this waste is applicable.
 - Under the Safe Drinking Water Act (SDWA), Maximum Contaminant Levels (MCLs) apply to a public water system serving 15 or more connections or 25 or more people. Groundwater is not covered by the SDWA, therefore MCLs can never be applicable to contaminated groundwater at a CERCLA site. However, MCLs may be relevant and appropriate for contaminated groundwater that is a drinking water source. Relevant and appropriate requirements are discussed on the next page.

"Relevant and Appropriate"

- ❑ Laws/regulations not binding to site situation but are sufficiently similar
- ❑ All or part of requirement may be relevant and appropriate
- ❑ Determinations made site-specifically, but often guided by national policy (e.g., MCLs)

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- A requirement is *relevant and appropriate* when the circumstances at a CERCLA site are sufficiently similar to those specified in the law or regulation and its use is well suited to the site.
- Requirements must be both relevant and appropriate. For example, MCLs may be relevant to cleanup of contaminated groundwater at a CERCLA site, but they may not be *appropriate* if the groundwater is not drinkable because of naturally occurring contamination.
- Determining relevance and appropriateness requires use of best professional judgement.

State ARARs

- ❑ Promulgated standards
 - Those that are of generally applicability and legally enforceable
- ❑ More stringent than federal requirement
- ❑ Identified by the state in a "timely manner"
 - Should be a single point of contact within the State

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- State ARARs must be of general applicability. That is, they may not be passed specifically to apply to remedial actions at a particular site within the state.

"To Be Considered"

- ❑ Not ARARs
- ❑ Criteria, advisories, guidances
- ❑ Use as needed to ensure protection

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- TBCs generally are not promulgated. However, a promulgated standard that is not applicable or relevant and appropriate may be a TBC.
- TBCs include policy memoranda and guidance. They may provide useful information or recommended procedures.
- For example, chemical-specific TBC values such as health advisories and reference doses may be used in the absence of ARARs or where ARARs are not sufficiently protective to develop cleanup goals.
- DOE Orders are not TBCs. You must comply with DOE Orders.

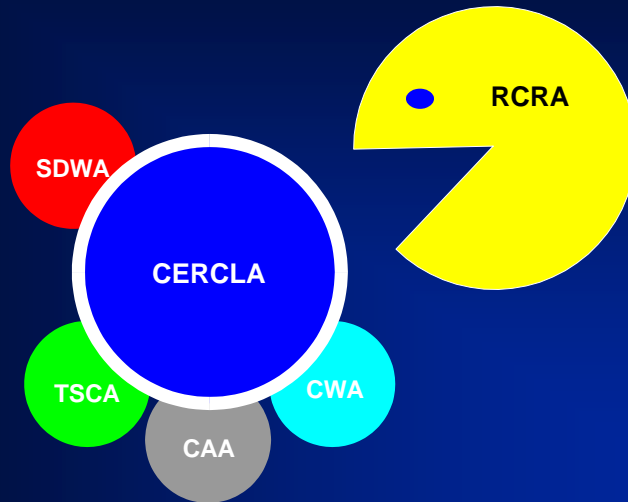
ARARs and Protectiveness

- ❑ Although ARARs and protectiveness often related, not synonymous
- ❑ Can waive ARARs, not protectiveness
- ❑ ARARs may need to be supplemented or exceeded to ensure protection. Additionally, a one in a million point of departure is used if ARARs are unavailable or are not sufficiently protective
- ❑ TBCs used as appropriate in development of risk assessment

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- Compliance with ARARs does not necessarily ensure protectiveness. For example, meeting the MCL for each individual contaminant in groundwater may not be protective if it does not account for the cumulative risk of all the contaminants present.
- Some MCLs alone also may not be protective because MCLs consider cost and technical feasibility. MCLs for arsenic and radon are two examples.

Major Federal ARARs



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- RCRA is one of the most important and commonly encountered Federal ARARs because the RCRA program deals with similar wastes and waste management activities.

Major RCRA Disposal Regulations

- ❑ Closure
- ❑ Minimum technology
- ❑ LAND DISPOSAL RESTRICTIONS
- ❑ Location requirements*
- ❑ Corrective action (subpart S)*
- ❑ Subtitle D*

* Additional requirements under development

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- Land disposal restrictions are the most important RCRA disposal regulations. Storage and treatment of hazardous wastes are also subject to RCRA requirements.

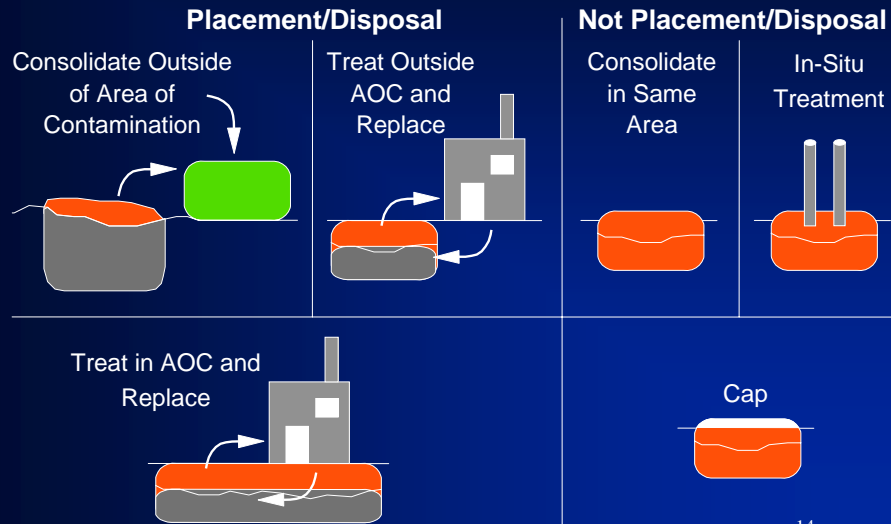
Why is Disposal/Placement Important?

- ❑ Many regulations are triggered by "disposal" or "land disposal"
- ❑ Closure regulations are applicable if RCRA hazardous waste is disposed
- ❑ Land ban requirements are applicable when restricted RCRA waste is placed or "land disposed"

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- "Disposal" and "land disposal" are not the same.
- "Disposal" means the discharge, deposit, injection, dumping, spilling, leaking, or placing of any solid waste or hazardous waste into or on any land or water so that such solid waste or hazardous waste or any constituent thereof may enter the environment or be emitted into the air or discharged into any waters, including ground waters. (40 CFR 261.10)
- "Land disposal" is defined on the next page.

What Constitutes Placement/Land Disposal?



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- In-situ actions are not considered "placement" or "land disposal."
- The concept of "area of contamination" (AOC), which is a contiguous area of significant contamination, is important because placement occurs when waste is removed from the AOC. However, when wastes are consolidated within an AOC, placement does not occur.
- In addition, placement in a newly created or existing surface impoundment, or in a tank or incinerator and replacement on land, even within the AOC, constitutes disposal.
- These are current interpretations; subsequent interpretations may be different.

CWA Water Quality Criteria and Standards

- ❑ Water quality criteria are guidelines for protection of human health or aquatic life
- ❑ CERCLA requires attainment when relevant and appropriate under the circumstances of the release
- ❑ Determination depends on the designated or potential water use, the media affected, the purpose for which the criteria were developed, and current scientific information
- ❑ States designate use and promulgate standards (typically NPDES discharge permit levels)
- ❑ Use water quality standards rather than water quality criteria

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SDWA Drinking Water Standards

- ❑ **Maximum contaminant levels (MCLs) and non-zero maximum contaminant level goals (MCLGs) are potential ARARs for current or potential drinking water sources**
- ❑ **Consider zero-MCLGs in outside risk range special circumstances**
- ❑ **Secondary MCLs are not ARARs unless promulgated by states**

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- MCLs are enforceable drinking water standards established by EPA under the SDWA. They establish the maximum level of a contaminant that is allowed in water delivered to any user of a public water system.
- MCLGs represent a contaminant level presenting no known or anticipated adverse effect on human health. As mentioned earlier, MCLGs above zero must be attained for ground or surface water that is a current or potential source of drinking water, where MCLGs are relevant and appropriate.
- Secondary MCLs are non-enforceable goals related to water taste, color, and odor.

Module Summary

- ❑ ARARs= Applicable or relevant and appropriate requirements
- ❑ ARARs pertain to any federal law and any state environmental or facility siting law
- ❑ Compliance with ARARs does not necessarily ensure protectiveness. ARARs may need to be supplemented to ensure protection
- ❑ RCRA is one of the most important and commonly encountered ARARs